

Proiphys infundibularis (Amaryllidaceae), a new species from the Townsville region of Queensland

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Summary

Jones, D.L. & Dowe, J.L. (2001). *Proiphys infundibularis* (Amaryllidaceae), a new species from the Townsville region of Queensland. *Austrobaileya* 6 (1): 121–126. *Proiphys* in Australia comprises four species, *P. amboinensis* (L.) Herbert, *P. cunninghamii* (Aiton ex Lindl.) Mabb., *P. alba* (R.Br.) Mabb. and *P. infundibularis* D.L.Jones & Dowe sp. nov., all occurring in eastern Queensland with *P. alba* also found in northern Western Australia and *P. cunninghamii* in northern New South Wales. A key is provided for identification of the Australian species of the genus. Three of the four species (not including *P. alba*) are illustrated. Notes on the habitat and ecology of *P. infundibularis* are included.

Keywords: Amaryllidaceae, *Proiphys*, *Proiphys infundibularis*, new species, tunicate bulbs, Queensland flora.

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Introduction

Proiphys Herb. is a genus of bulbous, seasonally deciduous geophytes distributed in South-east Asia, Melanesia and Australia (Backer & Bakhuizen van den Brink 1968; Telford 1987). In Australia *Proiphys* is one of the few indigenous bulbous genera to have tunicate bulbs. Plants commonly grow in colonies and their growth and flowering is linked closely with the wet season, dying back to dormant tubers during the dry season. They are frequently cultivated as ornamentals, especially in tropical regions.

Three species of *Proiphys* were previously recorded for Australia (Telford 1987): *P. amboinensis* (L.) Herb. distributed from Cape York to near Cardwell, Queensland, *P. cunninghamii* (Aiton ex Lindl.) Mabb. occurring in south-eastern Queensland and north-eastern New South Wales and *P. alba* (R.Br.) Mabb., occurring on northern Cape York Peninsula, Queensland and the Kimberley region of Western Australia. A fourth Australian species, from the Townsville region in Queensland is described here.

Materials and Methods

All species dealt with in this paper were examined in the field and as cultivated plants in the living collection of the Australian National Botanic Gardens in Canberra. Measurements cited here were made from both living material and herbarium collections.

Taxonomy

Proiphys infundibularis D.L.Jones & Dowe, **sp. nov.**, *P. amboinensi* (L.) Herb. affinis sed pedicellis ad 25 mm longis, floribus infundibuliformibus, lobis corollae anguste imbricatis, lobis coronae ad 16 mm longis, et filamentis staminum ad 30 mm longis, differt. **Typus:** Queensland. NORTH KENNEDY DISTRICT: 22 km W of Townsville, lower slopes of Hervey Range, alt. c. 250 m, 2 Oct 1998, J.L.Dowe 521 (holo BRI; iso CANB, JCT, K, QRS).

Bulbous herb growing in loose colonies. Bulb ovoid, 3–6 cm long, 4–6.5 cm wide. Leaves 1–4 per bulb, erect; petiole 15–50 cm long, 4–9 mm wide, broadly channelled distally; lamina broadly ovate to oblong-ovate or ovate-elliptic, 10–30 cm long, 8–28 cm wide, bright green, shiny, with veins slightly lighter, the midvein prominent, slightly sunken; base shallowly

cordate; apex acute to shortly acuminate. Inflorescence an erect umbel; scape 35–90 cm long, 8–14 mm wide, fleshy, bright green; umbel 5–14-flowered; involucre bracts 2, 10–35 mm long, 4–7 mm wide, papyraceous, whitish coloured; pedicels 15–25 mm long, c. 1.5 mm diam., fleshy, pale green. Flowers infundibuliform, 4–5 cm long, 4–4.5 cm diam., white, fragrant, each lasting 2–4 days; perianth tube 20–25 mm long, nectariferous; lobes obovate to obovate-spathulate, 28–38 mm long, 11–16 mm wide, obtuse to apiculate, obliquely erect, with margins shortly imbricate. Corona 14–16 mm long, the expanded filaments fused for 8–11 mm with adjacent filaments; lobes linear, tapered upwards, 8–10 mm long, acuminate. Stamens 6, protruding from the perianth; filaments 18–30 mm long, white; anthers linear, 4.5–6.5 mm long, yellow. Style protruding from the perianth, 50–55 mm long, white; stigma c. 1.5 mm wide. Capsule oblong to subovoid, 20–35 mm long, 10–20 mm wide, greenish coloured to yellow. Fig. 1.

Additional specimens examined: Queensland. NORTH KENNEDY DISTRICT: lower slopes of Hervey Range, alt. c. 250 m, Jan 1998, *Jones 15703 & Dowe* (BRI, CANB); Magnetic Island, Gustav Ck, among granite boulders, Oct 1998, *Corbett* (CANB).

Distribution and ecology: *P. infundibularis* is known only from near-coastal locations

between Townsville and Home Hill in Queensland, with populations of it occurring on the eastern lower slopes of Hervey Range, southern and northern footslopes of Mt Stuart, eastern footslopes of Mt Elliot, Magnetic Island (Gustav Creek) and hills to the northwest of Ayr and Home Hill. It grows close to streams and in small sheltered gullies, in vine thickets, and among rocks and large granite boulders on open sites. Soils are mainly grey gravelly loams derived from granite. Altitude ranges from 100 to 300 m.

Phenology: Plants flower from October to January and fruit from October to February.

Recognition: Table 1 presents a comparison of some diagnostic morphological characters of the Australian species of *Proiphys*. *Proiphys infundibularis* is readily recognised by its erect funnel-shaped flowers with imbricate corolla lobes and long staminal filaments (Figs 1 & 2). The leaves of *P. infundibularis* and *P. amboinensis* are almost identical although those of the former species are often smaller than those of the latter. However, the flowers of *P. amboinensis* are readily distinguished from those of *P. infundibularis* by their spreading corolla lobes set widely apart and with short staminal filaments (Fig. 3). *Proiphys cunninghamii* can immediately be distinguished

Table 1. Comparison of morphological characters of *Proiphys alba*, *P. amboinensis*, *P. cunninghamii* and *P. infundibularis*.

Character	<i>P. alba</i>	<i>P. amboinensis</i>	<i>P. cunninghamii</i>	<i>P. infundibularis</i>
leaf shape	elliptic-oblong	ovate-cordate	ovate-cordate	ovate-cordate
leaf size	10–35 × 2–11 cm	18–35 × 15–35 cm	10–25 × 8–13 cm	10–30 × 8–28 cm
involucre bracts	20–30 mm long	30–100 mm long	15–50 mm long	10–35 mm long
umbels	10–30 flowered	5–25 flowered	5–12 flowered	5–14 flowered
pedicels	7–30 mm long	15–45 mm long	25–35 mm long	15–25 mm long
flowers	erect	erect	porrect to drooping	erect
flower size	6–24 mm long	25–40 mm long	15–18 mm long	40–50 mm long
corolla lobes	5–12 mm long	7–10 mm long	15–20 mm long	14–16 mm long
filament length	3–12 mm	7–12 mm	12–16 mm long	18–30 mm

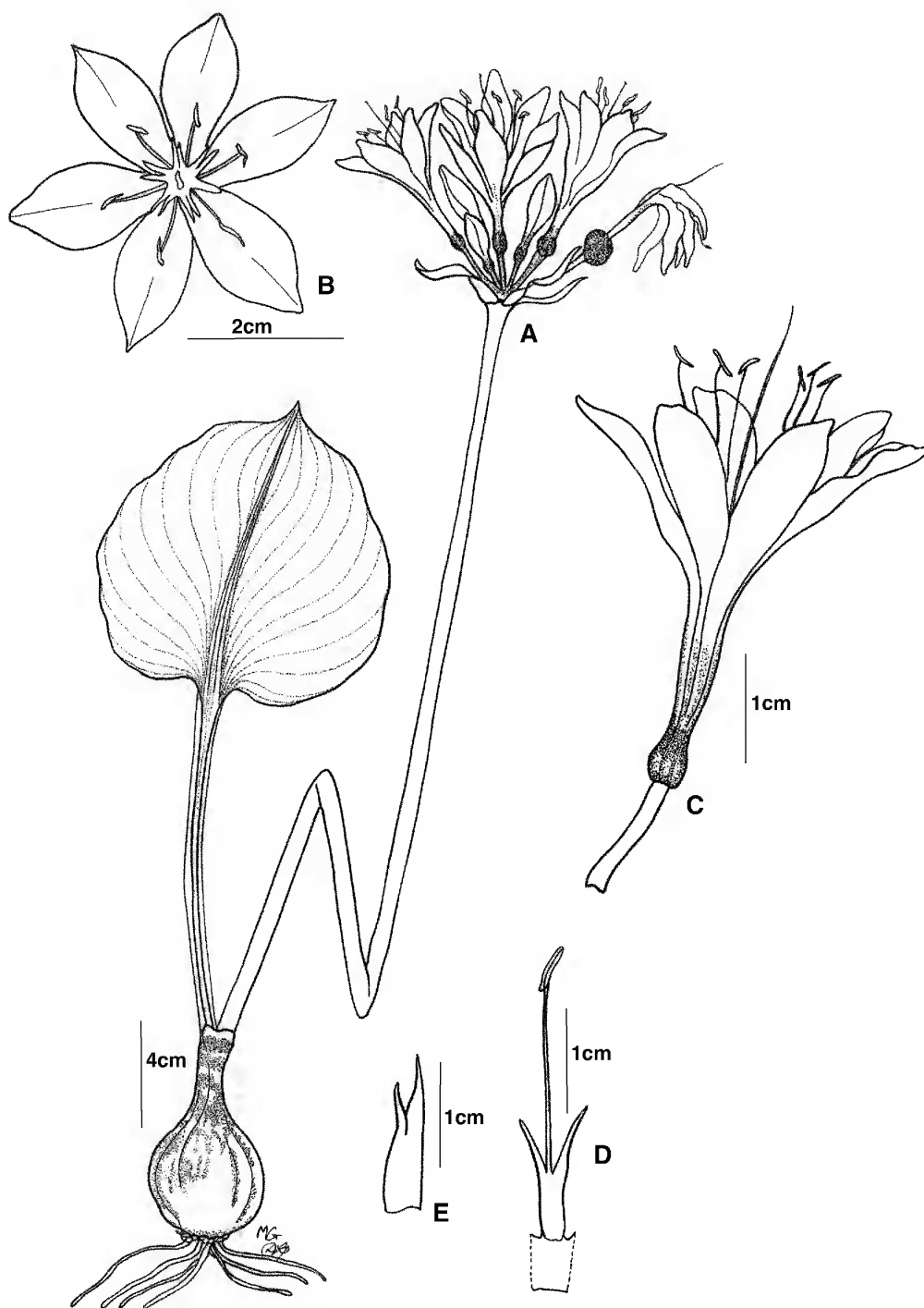


Fig. 1. *Proiphys infundibularis*, Hervey Range. A. flowering plant; B. flower, front view; C. flower, side view; D. stamen; E. corona segment. All from Jones DLJ 15703 & Dowe (CANB).

from *P. infundibularis* by its porrect to drooping flowers, broadly imbricate corolla lobes that are spreading at right angles to the perianth tube and short staminal filaments (Fig. 4). *Proiphys alba* is readily distinguished from all other Australian species of *Proiphys* by its greyish green elliptic-oblong leaves.

Notes: Initially there was speculation that this new species was a natural hybrid between *P. cunninghamii* and *P. amboinensis*. However neither species occurs in the Townsville region and the new species has unique characters and does not appear intermediate in any way.

Proiphys amboinensis appears to be most closely allied to the new species having leaves of similar shape but achieving larger dimensions and with morphologically different flowers.

Etymology: From *infundibularis*, Latin for funnel-shaped, in reference to the shape of the flowers which readily distinguishes this species from all other Australian species of *Proiphys*.

Conservation Status: Uncommon, but conserved in Magnetic Island National Park and Cape Bowling Green National Park.

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Key to Australian Species of *Proiphys*

1. Leaves with a broadly ovate lamina to 35 cm wide;
perianth tube more than 20 mm long 2
Leaves with an ovate or elliptic lamina to 13 cm wide;
perianth tube less than 15 mm long 3
2. Flowers porrect, campanulate; corolla lobes widely separated;
filaments 7–12 mm long **P. amboinensis**
Flowers erect, infundibuliform; corolla lobes narrowly imbricate;
filaments 18–30 mm long **P. infundibularis**
3. Leaf lamina ovate, bright green; corolla lobes recurved at
right angles to the perianth tube; corona to 20 mm long **P. cunninghamii**
Leaf lamina elliptic, grey green; corolla lobes obliquely erect;
corona to 12 mm long **P. alba**



Fig. 2. *Proiphys infundibularis*, cultivated ex Hervey Range, Queensland (DLJ 15703).



Fig. 3. *Proiphys amboinensis*, cultivated ex Cape York Peninsula, Queensland.



Fig. 4. *Proiphys cunninghamii*, cultivated ex Glenugie Peak, New South Wales.

References

- BACKER, C.A. & R.C. BAKHUIZEN VAN DEN BRINK (1968).
Flora of Java 3: 139–140. Groningen, The
Netherlands: Wolters - Noordhoff N.V.
- TELFORD, I.R. (1987) *Proiphys*. Liliaceae. In A.S. George
(ed.), *Flora of Australia* 45: 376–379. Canberra:
Australian Government Publishing Service.